



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,862	10/11/2004	Mu-Shan Liao	13718-US-PA	5861

31561 7590 03/12/2007
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

WILLIS, RANDAL L

ART UNIT	PAPER NUMBER
----------	--------------

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/711,862	Applicant(s) LIAO ET AL.	
	Examiner Randal L. Willis	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application No. 10/711,862 filed Oct. 11, 2004. Claims 1-8 are pending and have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Moon 2002/0180680.

Apropos claim 5, Moon teaches:

A dynamic level-adjustment compensation method (Title)suited to compensate a dynamic image signal input to a display (100, Fig. 2), wherein said dynamic image signal in different frame periods has different gray- level distributions ([0053], lines 1-5), the method comprising:

step (a): analyzing the gray-level distribution of said dynamic image signal ([0053] lines 1-5)and outputting an analysis signal ([0053] lines 5-8) according to an analysis result;

step (b): selecting a gamma characteristic curve according to said analysis signal ([0054] lines 1-3); and

step (c): outputting a gamma voltage ([0054] lines 3-6) according to said selected gamma characteristic curve.

Apropos claim 6, Moon teaches:

The method of Claim 5, wherein analyzing the gray-level distribution of said dynamic image signal is performed by an application specific integrated circuit (unit 210 is application specific, Fig. 2).

Apropos claim 7, Moon teaches:

7. The method of Claim 5, further comprising repeating steps (a), (b) and (c) in a next frame time ([0053] states screen brightness determined upon RGB gray scale signals from picture source, since RGB signals are new for each frame, the determination is inherently done each frame).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2629

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*,

383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a

background for determining obviousness under 35 U.S.C. 103(a) are

summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon 2002/0180680.

Apropos claim 8, Moon teaches:

The method of Claim 5, wherein the step of selecting a gamma characteristic curve is made from three gamma characteristic curves with gamma values around 2.2 ([0055] lists gamma curves having gamma value of 2.2 and those ranges lower and higher for different screen brightness's).

However Moon fails to explicitly state having two other gamma curves of values 2.0 and 2.4.

It would have been obvious to one of ordinary skill in the art at the time of the invention to supply gamma curves of around the 2.2 value, such as 2.0 and 2.4 as possible gamma curves to be used in different screen brightness levels in order to provide good contrast for the display.

7. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ha 2004/0113923 in view of Moon 2002/0180680.

Apropos claim 1, Ha teaches:

A dynamic level-adjustment compensation circuit suited for compensating a dynamic image signal (digital data input signal [0007] lines 10-12) input to a display device ([0014]), wherein said dynamic image signal in different frame times has different gray-level distributions (Inherent in the input signal for a EL or LCD display) , the circuit comprising:

an analyzing unit (control block producing signal M, [0038] lines 6-8) and output an analysis signal according to the analysis result ([0038] lines 6-8);

a plurality of gamma voltage generators (Gamma set generators 30, 32 and 34 Fig. 4), each of which produces a gamma voltage determined by a gamma characteristic curve ([0036] lines 10-15); and

a selector (38, Fig. 4) electrically connected to said analyzing unit (Receives signal M, Fig. 4) and said gamma voltage generators (See connections between Gamma set generators and 38, Fig. 4), wherein said selector is suited for selecting one of said gamma voltage generators ([0043] lines 1-6) according to said analysis signal and said selected gamma voltage generator outputs said corresponding gamma voltage ([0038] lines 1-4).

However Ha fails to explicitly teach:

Analyzing the gray-level distribution of said dynamic image signal and outputting the result.

In the same field of gamma correction for display devices, Moon teaches a system and method of analyzing a image signal to determine the brightness levels of the gray scales signals ([0053] lines 1-5) and then depending upon that determination result, changing the gamma characteristic curve used ([0055]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the control unit of Ha to include a brightness determination unit as taught by Moon that would enable Ha's selector to pick a gamma voltage set based not only on ambient light but the screen brightness so contrast is improved.

Apropos claim 2, Ha and Moon teach:

The circuit of Claim 1, wherein said analyzing unit comprises an application specific integrated circuit (The brightness determination circuit of Moon would be an IC in the control block of Ha).

Apropos claim 3, Ha teaches:

The circuit of Claim 1 further comprising a plurality of switch units (Sw1, Sw2 and Sw3, shown in selectors such as 82, Fig. 6) electrically connected to said selector (38, Fig. 4) and said gamma voltage generators (30, Fig. 4), said selector controlling said switch units kept in an open mode or in a close mode (Nature of switches to be either open or closed).

Apropos claim 4, Ha teaches:

The circuit of Claim 1, wherein a number of said gamma voltage generators is at least three (Four generators shown in Fig. 4),

However Ha doesn't explicitly teach:

one of said gamma voltage generators having the gamma characteristic curve with a gamma value of 2.0, another one of said gamma voltage generators having the gamma characteristic curve with a gamma value of 2.2, the other one of said gamma voltage generators having the gamma characteristic curve with a gamma value of 2.4.

In the same field of gamma correction for display devices, Moon teaches a middle gray scale having a gamma of 2.2 and that the gamma should be adjusted up or down for brighter or darker displays ([0055]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to insure that of the various gamma generators of Ha, one would be able to produce a set with a gamma value of 2.2, as well as others that would have values around 2.2, such as 2.0 and 2.4 in order to provide a gamma curve that provides good contrast for the screen brightness to be displayed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randal L. Willis whose telephone number is (571) 270-1461. The examiner can normally be reached on Monday to Friday from 7:30am to 5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RLW

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", is written over the printed name and title.